

REMARKS:

In the outstanding Final Office Action, claims 1-26 were rejected. Claims 1, 17 and 19-26 have been amended for clarification. Claim 4 remains cancelled. Thus, claims 1-3 and 5-26 are pending and under consideration. No new matter has been added. The rejections are traversed below.

REJECTION UNDER 35 U.S.C. §101:

Claims 1-3 and 5-26 are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter.

On page 2 of the outstanding Office Action, the Examiner states that the disclosed invention has "practical application" and is "within the technological arts". However, the Examiner indicates that there is no limitation to a practical application for the claimed method.

Independent claims 1, 17 and 19-26 are amended to recite, an operation(s) "to implement the graphics creation process" based on a conversation with the Examiner on November 24, 2004 to amend the claims to recite a post process activity. Accordingly, Independent claims 1, 17 and 19-26 are directed to a method and apparatus for passing algorithms in a dependency graph of a graphics creation process using a computer where algorithms or functions are passed between nodes to better control access to needed data during a graphics creation process. Applicants respectfully point out that the recitation "to implement the graphics creation process" in independent claims 1, 17 and 19-26 is limited to a practical application related to graphics creation process (See, MPEP §2106(IV)(2)(b)(B).

It is respectfully submitted that because independent claims 1, 17, and 19 and dependent claims dependent there from satisfy the requirements of 35 USC §101, withdrawal of the rejection is requested.

REJECTION UNDER 35 U.S.C. §103(a):

Claims 1-3 and 5-26 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,666,296('296).

'296 discusses converting an algorithm into a control flow graph having nodes where each represents statements.

The present application is directed to passing algorithms between nodes of a dependency graph where the algorithms are enabled to be executed as an evaluation of other nodes.

The Examiner acknowledges that '296 fails to disclose allowing the second dependency node to execute the algorithm and executing the algorithm as part of an evaluation of the second dependency node. However, the Examiner maintains the rejection of the present application based on the '296 data flow graph. In '296, a software implementation code is converted to a control flow graph having N nodes where each node contains a set of executable statements (see, column 3, lines 30-34 and FIG. 3 of '296). As shown in Example A of '296 (column 3, lines 40-50 and column 4, lines 20-25), the code used for symbolic evaluation of algorithms is limited to conditional branches and an enumerated loop. Further, reverse denominators are computed from the control flow graph indicating a set of nodes through which control from respective node is guaranteed to pass (see, column 3, line 65 through column 4, line 1 of '296). This means that the '296 data flow graph is limited to converting conditional branches and an enumerated loop into a data flow graph, therefore computation of an arbitrarily recursive algorithm (e.g. the Fibonacci sequence) cannot be expressed within a finite data flow graph.

In contrast, the present invention passes algorithms around the dependency graph with no content limitations. Independent claims 1, 17 and 19-26 recite, "passing a pointer to an algorithm associated with a first dependency node to a second dependency node allowing the second dependency node to execute the algorithm". Moreover, the algorithms are part of a dependency graph and not a data flow graph, thus they are subject to the dependency graph rules including implementation of messaging within the graph can arbitrarily change inputs before or during algorithm execution so these are inherently not decomposable into the '296 data flow graph.

For at least the above discussed reasons, the independent claims 1, 17 and 19-26 and the dependent claims depending from claims 1, 17 and 19-26 are patentably distinct from the '296 method. The dependent claims also recite additional patentably distinguishing features. For example, dependent claim 7 recites a feature where "the algorithm parameter types are identified dynamically as the dependency graph is executed". The Examiner indicates that '296 discloses at column 1, lines 34-37 a partial evaluation in which unspecified inputs, which the Examiner interpreted as parameter types, are evaluated at run time.

In contrast, the "parameter types" recitation in claim 7 is directed to different type of data (i.e. the difference between a floating point number and a 4x4 matrix of double precision numbers). Thus, not only are the input values unspecified but also the *types of data* stored in these values. This enables the present invention to eliminate the need to know algorithm

specifics and further enables the algorithm to be treated as an atomic operation (as opposed to decomposing the statement/code down to the level necessary in '293 where all code is embedded into a single parameterless algorithm).

Therefore, withdrawal of the rejection is respectfully requested.

CONCLUSION:

Accordingly, claims 1, 17 and 19-26 have been amended for clarification. Claim 4 remains cancelled. Thus, claims 1-3 and 5-26 are pending for which reconsideration is respectfully requested.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with the filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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11/24/14

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